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Security Council

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Note by the President of the Security Council

At its 6335th meeting, held on 9 June 2010 in connection with the item entitled "Non-proliferation", the Security Council adopted resolution 1929 (2010).

In paragraph 4 of the resolution, the Security Council requested the Director General of the International Atomic Energy Agency to communicate to the Security Council all his reports on the application of safeguards in the Islamic Republic of Iran.

Accordingly, the President circulates herewith the report of the Director General dated 20 February 2014 (see annex).

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Annex

Letter dated 20 February 2014 from the Director General of the International Atomic Energy Agency addressed to the President of the Security Council

I have the honour to enclose herewith the report requested by the Security Council in its resolution 1929 (2010), which I have submitted to the Board of Governors of the International Atomic Energy Agency.

I should be grateful if you would bring the present letter and the enclosed report (see enclosure) to the attention of all members of the Security Council.

(*Signed*) Yukiya **Amano**

Enclosure

[Original: Arabic, Chinese, English, French, Russian and Spanish]

Implementation of the NPT Safeguards Agreement and relevant provisions of Security Council resolutions in the Islamic Republic of Iran*

Report by the Director General

Main Developments

- Iran has implemented the six initial practical measures that it agreed with the Agency in November 2013 in relation to the Framework for Cooperation and both parties have agreed on the next seven practical measures to be implemented by Iran by 15 May 2014, including one measure related to the information contained in the Annex to the Director General's November 2011 report.

- On 24 November 2013, the E3+3 and Iran agreed on a Joint Plan of Action (JPA). The JPA took effect on 20 January 2014, and the Board of Governors endorsed the Agency undertaking monitoring and verification in relation to the nuclear-related measures set out therein (see Annex III).

- Enrichment of UF_6above 5% U-235 is no longer taking place at PFEP and FFEP. The amount of nuclear material that remains in the form of UF_6 enriched up to 20% U-235 is 160.6 kg. A proportion of this material is being downblended and the remainder is being converted to uranium oxide.

- Enrichment of UF_6up to 5% U-235 continues at a rate of production similar to that indicated in the Director General's previous report. No additional IR-2m or IR-1 centrifuges have been installed at FEP, FFEP or PFEP (production area). The amount of nuclear material that remains in the form of UF_6 enriched up to 5% U-235 is 7609 kg.

- An updated Design Information Questionnaire (DIQ) for the IR-40 Reactor has been provided to the Agency. No additional major components have been installed at this reactor and there has been no manufacture and testing of fuel for the reactor.

- Managed access has been provided to the Agency to centrifuge assembly workshops, centrifuge rotor production workshops and storage facilities.

* Circulated to the Board of Governors of the International Atomic Energy Agency under the symbol GOV/2014/10.

A. Introduction

1. This report of the Director General to the Board of Governors and, in parallel, to the Security Council, is on the implementation of the NPT Safeguards Agreement[1] and relevant provisions of Security Council resolutions in the Islamic Republic of Iran (Iran). It also contains information regarding the implementation of measures under the "Joint Statement on a Framework for Cooperation" (the Framework for Cooperation) and the Joint Plan of Action (JPA), including an Annex which provides an update on the implementation of "voluntary measures" that Iran has agreed to undertake in relation to the JPA.

2. The Security Council has affirmed that the steps required by the Board of Governors in its resolutions[2] are binding on Iran.[3] The relevant provisions of the aforementioned Security Council resolutions[4] were adopted under Chapter VII of the United Nations Charter and are mandatory, in accordance with the terms of those resolutions.[5] The full implementation of Iran's obligations is needed in order to ensure international confidence in the exclusively peaceful nature of its nuclear programme.

3. As previously reported, on 11 November 2013 the Agency and Iran signed a "Joint Statement on a Framework for Cooperation"(GOV/INF/2013/14). In the Framework for Cooperation, the Agency and Iran agreed to cooperate further with respect to verification activities to be undertaken by the Agency to resolve all present and past issues, and to proceedwith such activities in a step by step manner.

4. In a separate development, on 24 November 2013 China, France, Germany, the Russian Federation, the United Kingdom and the United States of America (E3+3) agreed on the JPAwith Iran in Geneva. The JPA, inter alia, stated that the "goal for these negotiations is to reach a mutually-agreed long-term comprehensive solution that would ensure Iran's nuclear programme will be exclusively peaceful", and that a Joint Commission would work with the Agency to "facilitate resolution of past and present issues of concern."[6]

5. In a joint letter to the Director General dated 13 January 2014, the E3+3 and Iran requested that the Agency "undertake the necessary nuclear-related monitoring and verification activities" in relation to the JPA. According to the JPA, the first step would be time-bound (six months) and renewable by mutual consent. The JPA took effect on 20 January 2014.

6. On 20 January 2014, the Director General provided to the Board of Governors a status report on Iran's nuclear programme in relation to the JPA (GOV/INF/2014/1).

7. On 24 January 2014, the Board of Governors took note of the Director General's report on *Monitoring and Verification in the Islamic Republic of Iran in relation to the Joint Plan of Action*(GOV/2014/2) and

[1] The Agreement between Iran and the Agency for the Application of Safeguards in Connection with the Treaty on the Non-Proliferation of Nuclear Weapons (INFCIRC/214), which entered into force on 15 May 1974.
[2] Between September 2003 and September 2012, the Board of Governors adopted 12 resolutions in connection with the implementation of safeguards in Iran (see GOV/2013/56, footnote 2).
[3] Security Council resolution 1929 (2010).
[4] GOV/2013/56, footnote 4.
[5] Part I.A of the Agency's Relationship Agreement with the United Nations (INFCIRC/11).
[6] GOV/2014/2, para. 3.

endorsed the Agency undertaking monitoring and verification in relation to the nuclear-related measures set out in the JPA, in response to the request by the E3+3 and Iran, subject to the availability of funds.[7]

8. The Agency is now undertaking this monitoring and verification, which involves activities additional to those already being carried out pursuant to Iran's Safeguards Agreement and relevant provisions of Security Council resolutions.

9. In response to an invitation from Iran, from 3 to 7 February 2014,the Deputy Director General for Safeguards visited the enrichment plants at Natanz and Fordow, the IR-40 Reactor at Arak, and the Fuel Manufacturing Plant(FMP) and Fuel Plate Fabrication Plant (FPFP) at Esfahan. In addition, he led the Agency's managed access to centrifuge assembly workshops, centrifuge rotor production workshops and storage facilities.

10. This quarterly report addresses developments since the Director General's previous report (GOV/2013/56), as well as issues of longer standing.[8]

B. Clarification of Unresolved Issues

11. As previously reported, the Board of Governors, in its resolution of November 2011 (GOV/2011/69),stressed that it was essential for Iran and the Agency to intensify their dialogue aimed at the urgent resolution of all outstanding substantive issues for the purpose of providing clarificationsregarding those issues, including access to all relevant information, documentation, sites, material and personnel in Iran. In its resolution of September 2012 (GOV/2012/50), the Board of Governors decided that Iranian cooperation with Agency requests aimed at the resolution of all outstanding issues was essential and urgent in order to restore international confidence in the exclusively peaceful nature of Iran's nuclear programme.

12. Pursuant to the Framework for Cooperation, technical meetingswere held in Vienna on 11 December 2013and in Tehran on 8 and 9 February 2014, at which Agency and Iranian officialsreviewed progress on the implementation of the six initial practical measures and agreed on seven practical measures to be implemented by Iran during the next step.

13. Iran has implemented the six initial practical measures as follows:

- On 8 December 2013, Iran provided the Agency with mutually agreed relevant information and managed access to the Heavy Water Production Plant (HWPP) at Arak.Approximately 100 tonnes of reactor-grade heavy water have been produced at the HWPP since production began in 2006.
- On 29 January 2014, Iran provided the Agency with mutually agreed relevant information, including that relating to the production and shipping of uranium ore concentrate (UOC),and managed access to the Gchine mine in Bandar Abbas.[9]The Agency was given access to the requested locations on the site.

[7] A number of Member States have indicated that they would make extrabudgetary funds available.
[8] The Director General will provide the Board of Governors with monthly updates on Iran's implementation of "voluntary measures" undertaken in relation to the JPA, the first of which is contained in Annex III to this report.
[9]At Gchine, Iran operates a mine for the exploitation of uranium, the ore from which is processed at the co-located mill.

- In a letter dated 8 February 2014, Iran informed the Agency that a "10 MW light water pool type research reactor with 20% enriched uranium oxide fuel, is planned to be constructed in order to fulfil the national demand on educational nuclear research, material testing, medical radio isotopes production and other beam line application", and that "the site selection process is still in its preliminary stages."

- In another letter dated 8 February 2014, Iran informed the Agency that it had initiated a project for the identification of "Candidate Areas" for new nuclear power plants. Iran provided the Agency with a list of the 16 "Preferred Candidate Areas," according to criteria related to "safety, environmental, social and economical, and technical factors," as the "potential location for future construction" of such plants.

- In a letter dated 18 January 2014, Iran provided clarification of the announcement it had made previously that it had decided to construct ten additional uranium enrichment facilities. Iran informed the Agency that preliminary site selections for five such facilities had started but not been "finalized" and that the "successful development of new type of gas centrifuge machines" had "provided the timing flexibility before conducting next steps."Iran also stated that "for the first step time-bound (six months), there will be no new location for enrichment other than those already existing at the Fordow and Natanz sites."

- In another letter dated 18 January 2014, Iran provided further clarification of the statementit had made in February 2010 with respect to laser enrichment technology. Iran indicated that this statement was made based on its "past R&D experiences in the field of laser enrichment which ended in 2003" and that since then "there had not been any especially designed or prepared systems, equipment and components for use in laser-based enrichment plants in Iran."

The Agency confirms that Iran has implemented these initial practical measures within the specified three-month period. The Agency is analysing the information provided by Iran and has requested additional clarifications of some of this information.

14. The seven practical measures to be implemented by Iran by 15 May 2014,are as follows:[10]

- Providing mutually agreed relevant information and managed access to the Saghand mine in Yazd.

- Providing mutually agreed relevant information and managed access to the Ardakan concentration plant.

- Submission of an updated Design Information Questionnaire (DIQ) for the IR-40 Reactor.

- Taking steps to agree with the Agency on the conclusion of a Safeguards Approach for the IR-40 Reactor.

- Providing mutually agreed relevant information and arranging for a technical visit to LashkarAb'ad Laser Centre.

- Providing information on source material, which has not reached the composition and purity suitable for fuel fabrication or for being isotopically enriched, including imports of such material and on Iran's extraction of uranium from phosphates.

[10]GOV/INF/2014/3.

- Providing information and explanations for the Agency to assess Iran's stated need or application for the development of Exploding Bridge Wire detonators.

C. Facilities Declared under Iran's Safeguards Agreement

15. Under its Safeguards Agreement, Iran has declared to the Agency 17 nuclear facilities and nine locations outside facilities where nuclear material is customarily used (LOFs)[11](Annex I). Notwithstanding that certain of the activities being undertaken by Iran at some of the facilities are contrary to the relevant resolutions of the Board of Governors and the Security Council, as indicated below, the Agency continues to verify the non-diversion of declared material at these facilities and LOFs.

D. Enrichment Related Activities

16. Contrary to the relevant resolutions of the Board of Governors and the Security Council, Iran has not suspended all of its enrichment related activities in the declared facilities referred to below. However, since the Director General's previous report, Iran has ceased the production of UF_6enriched above 5% U-235. All of the enrichment related activities at Iran's declared facilities are under Agency safeguards, and all of the nuclear material, installed cascades, and feed and withdrawal stations at those facilities are subject to Agency containment and surveillance.[12]

17. Iran has stated that the purpose of enriching UF_6 up to 5% U-235 is the production of fuel for its nuclear facilities.[13]Iran has also stated that the purpose of enriching UF_6 up to 20% U-235 is the manufacture of fuel for research reactors.[14]

18. Since Iran began enriching uranium at its declared facilities, it has produced at those facilities:

- 11 111 kg (+754 kg since the Director General's previous report) of UF_6 enriched up to 5% U-235, of which 7609 kg (+454.7 kg since the Director General's previous report) remain in the form of UF_6 enriched up to 5% U-235[15] and the rest has been further processed (see Annex II); and

- 447.8 kg (+37.4 kg since the Director General's previous report) of UF_6 enriched up to 20% U-235, of which 160.6 kg (–35.4 kg since the Director General's previous report) remain in the form of UF_6 enriched up to 20% U-235 and the rest has been further processed. On 20 January 2014, Iran ceased the production of UF_6 enriched up to 20% U-235and also began downblendingsome of what it had

[11] All of the LOFs are situated within hospitals.
[12] In line with normal safeguards practice, small amounts of nuclear material (e.g. some waste and samples) may not be subject to containment and surveillance.
[13] As declared by Iran in its DIQs for the Fuel Enrichment Plant (FEP) at Natanz.
[14]GOV/2010/10, para. 8; and as declared by Iran in its DIQ for FPFP.
[15] This comprises nuclear material in storage as well as nuclear material in the cold traps and inside cylinders still attached to the enrichment process.

produced into UF_6 enriched to no more than 5% U-235 (as detailed in para. 32 below). The remainder of what it had produced is being converted into uranium oxide (see Annex II).

D.1. Natanz

19. **Fuel Enrichment Plant:** FEP is a centrifuge enrichment plant for the production of low enriched uranium (LEU) enriched up to 5% U-235, which was first brought into operation in 2007. The plant is divided into Production Hall A and Production Hall B. According to design information submitted by Iran, eight units, each containing 18 cascades, are planned for Production Hall A, which totals approximately 25 000centrifuges in 144 cascades. Currently, one unit contains IR-2m centrifuges;five contain IR-1 centrifuges; and the other two units do not contain centrifuges. Iran has yet to provide the corresponding design information for Production Hall B.

20. In the unit containing IR-2m centrifuges, as of 10 February 2014, the situation remained unchanged from the Director General's previous report: six cascades had been fully installed with IR-2m centrifuges;[16] none of these cascades had been fed with natural UF_6; and preparatory installation work had been completed for the other 12 IR-2m cascades in the unit.

21. In the five units containing IR-1 centrifuges, as of 10 February 2014,90 cascades had been fully installed,[17] of which 54 were being fed with natural UF_6.As indicated in the Director General's previous report, preparatory installation work had been completedfor 36 IR-1 cascades in the two units not containing centrifuges.

22. On 20 January 2014, the Agency applied additional containment and surveillance measures to confirm that no more than the aforementioned 54 IR-1 cascades are being fed with nuclear material at FEP.

23. As a result of the physical inventory verification (PIV) carried out by the Agency at FEP between 19 Octoberand 11 November 2013, the Agency verified, within the measurement uncertainties normally associated with such a facility, the inventory of nuclear material as declared by Iran on 20 October 2013.

24. As of 9 February 2014, Iran had fed 126 815 kg of natural UF_6 into the cascades at FEP since production began in February 2007 and produced a total of 11 091 kg of UF_6 enriched up to 5% U-235.

25. Based on the results of the analysis of environmental samples taken at FEP,[18] and other verification activities, the Agency has concluded that the facility has operated as declared by Iran in the relevant DIQ.

26. **Pilot Fuel Enrichment Plant:** PFEP is a pilot LEU production, and research and development (R&D) facility that was first brought into operation in October 2003. It can accommodate six cascades, and is divided between an area designated by Iran for the production of UF_6enriched up to 20% U-235 (Cascades 1 and 6) and an area designated by Iran for R&D (Cascades 2, 3, 4 and 5).

[16] The number of IR-2m centrifuges installed at FEP (1008) was unchanged from that indicated in the Director General's previous report.

[17] The number of IR-1 centrifuges installed at FEP (15 420) was unchanged from that indicated in the Director General's previous report.

[18] Results are available to the Agency for samples taken up to 5 June 2013.

27. As a result of the PIV carried out by the Agency at PFEP between 14 September and 1 October 2013, the Agency verified, within the measurement uncertainties normally associated with such a facility, the inventory of nuclear material as declared by Iran on 15 September 2013.

28. ***Production area:***On 20 January 2014, Iranceased feeding Cascades 1 and 6 with UF_6 enriched up to 5% U-235and has since begun feeding the cascades with natural UF_6 instead. Iran is no longer operating these cascades in an interconnected configuration.[19]On the same date, the Agency applied additional containment and surveillance measures to confirm that Cascades 1 and 6 are not interconnected.

29. As of 20 January 2014, when Iran ceased production of UF_6 enriched up to 20% U-235, Iran had fed 1630.8 kg of UF_6enriched up to 5% U-235 into Cascades 1 and 6since production began in February 2010 and had produced a total of 201.9 kg of UF_6 enriched up to 20% U-235, all of which has since been withdrawn from the process and verified by the Agency. Between 20 January 2014 and 9 February 2014, Iran fed 35.0 kg of natural UF_6 into Cascades 1 and 6 at PFEP and produced a total of 4.1 kg of UF_6 enriched up to 5% U-235.

30. ***R&D area:***Since the Director General's previous report, Iran has been intermittently feeding natural UF_6into IR-6s centrifuges as single machines and into IR-1, IR-2m, IR-4 and IR-6 centrifuges, sometimes into single machines and sometimes into cascades of various sizes.[20] The single installed IR-5 centrifuge has yet to be fed with UF_6.On 4 December 2013, Iran provided the Agency with an updated DIQ in which Iran informed the Agency of its intention to install a single "new centrifuge",referred to by Iran as an "IR-8",in the R&D area. Since 15 December 2013, the Agency has observed a new "casing", which isinplacebut without connections.

31. Between 26 October 2013 and 9 February 2014, a total of approximately 430.1 kg of natural UF_6 was fed into centrifuges in the R&D area, but no LEU was withdrawn as the product and the tails were recombined at the end of the process.

32. On 20 January 2014, Iranbegan downblendingsome of its inventory of UF_6 enriched up to 20% U-235 at PFEP. As of 9 February 2014, Iran had downblended22.9 kg of such material to produce UF_6 enriched to no more than 5% U-235.

33. Based on the results of the analysis of environmental samples taken at PFEP,[21]and other verification activities, the Agency has concluded that the facility has operated as declared by Iran in the relevant DIQ.

D.2. Fordow

34. **Fordow Fuel Enrichment Plant:**FFEP is, according to the DIQ of 18 January 2012, a centrifuge enrichment plant for the production of UF_6enriched up to 20% U-235 and the production of UF_6 enriched up to 5% U-235.[22]The facility, which was first brought into operation in 2011, is designed to contain up to 2976

[19] As of 15 February 2014, Cascades 1 and 6 contained a total of 328 IR-1 centrifuges (unchanged from that indicated in the Director General's previous report).

[20] On 15 February 2014, there were 11 IR-4 centrifuges, seven IR-6 centrifuges, one IR-6s centrifuge and one IR-5 centrifuge installed in Cascade 2; 14 IR-1 centrifuges installed in Cascade 3; 164 IR-4 centrifuges installed in Cascade 4; and 162 IR-2m centrifuges installed in Cascade 5.

[21] Results are available to the Agency for samples taken up to 31 August 2013.

[22]GOV/2009/74, paras7 and 14; GOV/2012/9, para. 24. Iran has provided the Agency with an initial DIQ and three revised DIQs with different stated purposes for FFEP. In light of the difference between the original stated purpose of the facility and the purpose for which it is now being used, additional information from Iran is still required.

centrifuges in 16 cascades, divided between Unit 1 and Unit 2. To date, all of the centrifuges installed are IR-1 machines.On 8 February 2014, Iran provided an update to parts of the DIQ in which it stated that it had taken measures "due to change in level of enrichment" and that the measures "are temporarily taken during the first step implementation of the JPA."

35. On 20 January 2014, Iran ceased feeding UF_6 enriched up to 5% U-235into the four cascades of Unit 2 previously used for this purpose and has since begun feeding them with natural UF_6 instead. Iran is no longer operating these cascades in an interconnected configuration.None of the other 12 cascades in FFEPhad been fed with UF_6.[23]

36. On 20 January 2014, the Agency applied additional containment and surveillance measures at FFEP to confirm that only the aforementioned four IR-1 cascades are used to enrich UF_6 and that the four cascades are not interconnected.

37. Between 23 and 27 November 2013, the Agency conducted a PIV at FFEP, the results of which are now being evaluated by the Agency.

38. Between 18 January and 2 February 2014, the Agency conducted another PIV at FFEP to verify the inventory as declared by Iran on 20 January 2014, the results of which are now being evaluated by the Agency.

39. As of 20 January 2014, Iran had fed 1806 kg of UF_6 enriched up to 5% U-235 into the cascades at FFEP since production began in December 2011 and had produced a total of 245.9 kg of UF_6 enriched up to 20% U-235, all of which has since been withdrawn from the process and verified by the Agency. Between 20 January 2014 and 9 February 2014, Iran fed 144 kg of natural UF_6 into the cascades at FFEP and produced a total of 15.8 kg of UF_6 enriched up to 5% U-235.

40. Based on the results of the analysis of environmental samples taken at FFEP,[24]and other verification activities, the Agency has concluded that the facility has operated as declared by Iran in the relevant DIQ.

D.3. Other Enrichment Related Activities

41. As indicated above (para. 9), in early February the Deputy Director General led the Agency's managed access to centrifuge assembly workshops, centrifuge rotor production workshops and storage facilities.[25] In a letter to the Agency dated 20 January 2014, Iran provided information on the location of these workshops and facilities. In a letter dated 12 February 2014, Iran also provided the Agency with an inventory of centrifuge rotor assemblies to be used to replace those centrifuges that fail. The Agency is analysing the information provided by Iran and has requested additional clarifications of some of this information.

[23] The number of centrifuges installed at FFEP (2710) was unchanged from that indicated in the Director General's previous report.

[24] Results are available to the Agency for samples taken up to 18 September 2013.

[25] This relates to one of Iran's undertakings in the JPA.

E. Reprocessing Activities

42. Iran is required, pursuant to the relevant resolutions of the Board of Governors and the Security Council, to suspend its reprocessing activities, including R&D.[26]In a letter dated 18 January 2014, Iran stated that "during the first step time-bound (six months), Iran will not engage in stages of reprocessing activities, or construction of a facility capable of reprocessing."[27]

43. The Agency has continued to monitor the use of hot cells at the Tehran Research Reactor (TRR)[28] and the Molybdenum, Iodine and Xenon Radioisotope Production (MIX) Facility.[29] The Agency carried out an inspection and design information verification (DIV) at TRR on 9 February 2014, and a DIV at the MIX Facility on10 February 2014. The Agency can confirm that there are no ongoing reprocessing related activities with respect to TRR, the MIX Facility and the other facilities to which the Agency has access in Iran.

F. Heavy Water Related Projects

44. Contrary to the relevant resolutions of the Board of Governors and the Security Council, Iran has not suspended work on all heavy water related projects.[30]However, since the Director General's previous report, Iran has not installed any major components at the IR-40 Reactor.

45. **IR-40 Reactor:** The IR-40 Reactor, which is under Agency safeguards, is a 40 MW heavy water moderated research reactor designed to contain 150 fuel assemblies containing natural uranium in the form of UO_2.

46. As of 20 January 2014, Iranhad ceased the production of nuclear fuel assemblies for the IR-40 Reactorat FMP (see para. 57 below).

47. On 12 February 2014, the Agency carried out a DIV at the IR-40 Reactor and observed that, since the Director General's previous report, none of the reactor's remaining major components had been installed.[31]On the same date, in line with its undertaking under the Framework for Cooperation (see para. 13 above), Iran submitted an updated DIQ for the IR-40 Reactor. Iran has also agreed to take steps to agree with the Agency on the conclusion of the Safeguards Approach for the IR-40 Reactor.

48. **Heavy Water Production Plant:** The HWPP is a facility for the production of heavy water with a design capacity to produce 16 tonnes of reactor-grade heavy water per year.

49. Since the Director General's previous report, Iran has continued the production of heavy water at the HWPP. Although the HWPP is not under Agency safeguards, the plant was subject to managed access by the

[26]GOV/2013/56, footnote 28.
[27] This relates to one of Iran's undertakings in the JPA.
[28] TRR is a 5 MW reactor which operates with 20% U-235 enriched fuel and is used for the irradiation of different types of targets and for research and training purposes.
[29] The MIX Facility is a hot cell complex for the separation of radiopharmaceutical isotopes from targets, including uranium, irradiated at TRR.
[30]GOV/2013/56, footnote 32.
[31] GOV/2013/56, para. 34.

Agency on 8 December 2013 (as indicated in para. 13 above). During the managed access, Iran also provided the Agency with mutually agreed relevant information. In addition, access to the heavy water storage location at the Uranium Conversion Facility (UCF) at Esfahan has enabled the Agency to characterize the heavy water.[32]

G. Uranium Conversion and Fuel Fabrication

50. Iranis conducting a number of activities at UCF,the Enriched UO_2 Powder Plant (EUPP),FMP and FPFP at Esfahan, as indicated below, which are in contravention of its obligationsto suspend all enrichment related activities and heavy water related projects, notwithstanding that the facilities are under Agency safeguards.

51. Since Iran began conversion and fuel fabrication at its declared facilities, it has, inter alia:

- Produced 550 tonnes of natural UF_6 at UCF, of which 146 tonnes have been transferred to FEP.
- Fed into the R&D conversion process at UCF 53 kg of UF_6 enriched to 3.34% U-235 and produced 24 kg of uranium in the form of UO_2.[33]
- Fed into the conversion process at FPFP 262.7 kg of UF_6 enriched up to 20% U-235 (+49.2 kg since the Director General's previous report) and produced120.6 kg of uranium in the form of U_3O_8.
- Transferred to TRR20fuel assemblies containing uranium enriched up to 20% U-235 and two fuel assemblies containing uranium enriched to 3.34% U-235.

52. **Uranium Conversion Facility:** UCF is a conversion facility for the production of both natural $UF_6$and natural UO_2 from UOC. It is planned that UCF will alsoproduce uranium metal ingots from natural and depleted UF_4, and produce UF_4 from depleted UF_6.

53. Iran has continuedto conduct R&D conversion activitiesusing LEU compounds for the production of UO_2. Iran has declared that, as of 7 February 2014,it had produced 13.8 tonnes of natural uranium in the form of UO_2 through the conversion of UOC.[34]The Agency has verified that, as ofthe same date, Iran had transferred 13.2 tonnesof natural uranium in the form of $UO_2$to FMP.

54. **Enriched UO_2Powder Plant:**EUPP is a facility for the conversion of UF_6 enriched up to 5% U-235into UO_2 powder.[35]On 10 February 2014, the Agency conducted a DIV at EUPP during which it confirmed thatthe facility had yet to commence operation. In a letter dated 14 February 2014, the Agency requested that Iran provide an updated operational schedule for the commissioning of EUPP. Iran has yet to reply.

55. **Fuel Manufacturing Plant:**FMP is a facility for the fabrication of nuclear fuel assemblies for power and research reactors (see Annex II).

[32] GOV/2013/56, para. 39.
[33] GOV/2012/55, para. 35.
[34] This amount only refers to material qualified for fuel fabrication.
[35]GOV/2013/40, para. 45.

56. As a result of the PIV and DIV carried out by the Agency between 1and 3 September 2013, the Agency verified, within the measurement uncertainties normally associated with such a facility, the inventory of nuclear material as declared by Iran on 31 August 2013.

57. On 10 and 12 February 2014 respectively, the Agency conducted a DIV and an inspection at FMP and verified that Iran had ceased the production of nuclear fuel assemblies using natural $UO_2$for the IR-40 Reactor and that all of the fuel assemblies that had been produced previously remained at FMP.

58. **Fuel Plate Fabrication Plant:**FPFP is a facility for the conversion of UF_6 enriched up to 20% U-235 into U_3O_8 and the manufacture of fuel assemblies made of fuel plates containing U_3O_8 (see Annex II).

59. As a result of the PIV carried out by the Agency at FPFP between 9 and 11 September 2013, the Agency verified, within the measurement uncertainties normally associated with such a facility, the inventory of nuclear material as declared by Iran on 9 September 2013.

60. In a letter dated 18 January 2014, Iran stated that "during the first step of time-bound (six months), Iran declares that there is no reconversion line to reconvert uranium oxide enriched up to 20% U-235 back into UF_6 enriched up to 20% U-235."[36]On 15 and 16 February 2014 respectively, the Agency conducted a DIV and an inspection at FPFP during which it confirmed that the conversion of UF_6 enriched up to 20% U-235 into U_3O_8 was ongoing and that there was no process line at the plant for the reconversion of oxides into UF_6.

61. The Agency has verified that, as of 16 February 2014, Iran had fed a total of 262.7 kg of UF_6 enriched up to 20% U-235 (177.4 kg of uranium) into the conversion process of FPFPand had produced 120.6 kg of uranium in the form of U_3O_8. The Agency also verified that 36.8 kg of uranium were contained in solid and liquid scrap. The remainder of the uranium that was fed into the processremains in the process andin waste.

62. The Agency has verified that, as of 15 February 2014, Iran had produced at FPFP one experimental fuel assembly and 25 TRR-type fuel assemblies. Twenty of these fuel assemblies, including the experimental assembly, had been transferred to TRR.

H. Possible Military Dimensions

63. Previous reports by the Director General have identified outstanding issues related to possible military dimensions to Iran's nuclear programme and actions required of Iran to resolve these.[37]The Agency remains concerned about the possible existence in Iran of undisclosed nuclear related activities involving military related organizations, including activities related to the development of a nuclear payload for a missile. Iran is required to cooperate fully with the Agency on all outstanding issues, particularly those which give rise to

[36] This relates to one of Iran's undertakings in the JPA.

[37] For example: GOV/2011/65, paras 38–45 and Annex; GOV/2011/29, para. 35; GOV/2011/7, Attachment; GOV/2010/10, paras 40–45; GOV/2009/55, paras 18–25; GOV/2008/38, paras 14–21; GOV/2008/15, paras 14–25 and Annex; GOV/2008/4, paras 35–42.

concerns about the possible military dimensions to Iran's nuclear programme, including by providing access without delay to all sites, equipment, persons and documents requested by the Agency.[38]

64. The Annex to the Director General's November 2011 report (GOV/2011/65) provided a detailed analysis of the information available to the Agency at that time, indicating that Iran has carried out activities that are relevant to the development of a nuclear explosive device. This information is assessed by the Agency to be, overall, credible.[39]Iran has dismissed the Agency's concerns, largely on the grounds that Iran considers them to be based on unfounded allegations.[40]The Agency has obtained more information since November 2011 that has further corroborated the analysis contained in that Annex.

65. As indicated above (para. 3), the Agency and Iran agreed to cooperate further with respect to verification activities to be undertaken by the Agency to resolve all present and past issues. The seven practical measures to be implemented in the second step of the Framework for Cooperation include the provision of "information and explanations for the Agency to assess Iran's stated need or application for the development of Exploding Bridge Wire detonators."[41]

66. The Agency continues to seek answers from Iran to the detailed questions provided to Iran regarding Parchinand the foreign expert,[42]and to requestaccess to a particular location at theParchin site.[43] Since the Agency's first request for access, extensive activities have taken place at this location that will have seriously undermined the Agency's ability to conduct effective verification.[44]

67. Since the Director General's previous report, the Agency has observed through satellite imagery what appears to be possible building material and debrisat the location of interest.

I. Design Information

68. As indicated above (para. 47), on 12 February 2014, Iran provided the Agency with an updated DIQ for the IR-40 Reactor.

[38]Security Council resolution 1929, paras 2 and 3.
[39]GOV/2011/65, Annex, Section B.
[40]GOV/2012/9, para. 8.
[41] The Agency's need to clarify Iran's possible activities in relation to exploding bridgewire detonators is set out in GOV/2011/65, Annex, Section C.
[42]GOV/2011/65, Annex, Section C; GOV/2012/23, para. 5.
[43] The Agency has information provided by Member States indicating that Iran had constructed a large explosives containment vessel (chamber) at this location in which to conduct hydrodynamic experiments. Such experiments would be strong indicators of possible nuclear weapon development (GOV/2011/65, Annex, paras 49–51).
[44] For a list of the most significant developments observed by the Agency at this location between February 2012 and the publication of the Director General's May 2013 report, see GOV/2012/55, para. 44, GOV/2013/6, para. 52 and GOV/2013/27, para. 55.

69. Under the terms of its Safeguards Agreement and relevant resolutions of the Board of Governors and the Security Council,Iran is required to implement the provisions of the modified Code 3.1 of the Subsidiary Arrangements General Part concerning the early provision of design information.[45]

J. Additional Protocol

70. Contrary to the relevant resolutions of the Board of Governors and the Security Council, Iran is not implementing its Additional Protocol. The Agency will not be in a position to provide credible assurance about the absence of undeclared nuclear material and activities in Iran unless and untilIran provides the necessary cooperation with the Agency, including by implementing its Additional Protocol.[46]

K. Other Matters

71. On9 February 2014, the Agency confirmed that seven fuel assemblies which had been produced in Iran and which contain uranium that was enriched in Iran up to 20% U-235were in the core of TRR.[47]On the same date, the Agency observed that the Mini IR-40 prototype fuel assembly was in the storage pool.[48]

72. As of 10 February 2014, one fuel plate containing a mixture of U_3O_8 (up to 20% enriched) and aluminiumwas present at the MIX facility, having been transferred from FPFP, and was being used for R&D activities aimed at optimizingthe production of ^{99}Mo, ^{133}Xe and ^{132}I isotopes.[49]

73. On 19 February 2014, the Agency conductedan inspectionat the Bushehr Nuclear Power Plant, at which timethe reactor was shut down for refueling.

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[45] In a letter dated 29 March 2007, Iran informed the Agency that it had suspended implementation of the modified Code 3.1 of the Subsidiary Arrangements to its Safeguards Agreement (GOV/INF/2007/8). In accordance with Article 39 of Iran's Safeguards Agreement, agreed Subsidiary Arrangements cannot be changed unilaterally; nor is there a mechanism in the Safeguards Agreement for the suspension of provisions agreed to in the Subsidiary Arrangements. Therefore, the modified Code 3.1, as agreed to by Iran in 2003, remains in force. Iran is further bound by operative para.5 of Security Council resolution 1929 (2010).

[46] Iran's Additional Protocol was approved by the Board of Governors on 21 November 2003 and signed by Iran on 18 December 2003, although it has not been brought into force. Iran provisionally implemented its Additional Protocol between December 2003 and February 2006.

[47] On 9 February 2014, the core of TRR comprised a total of 33 fuel assemblies.

[48] GOV/2013/40, para. 64.

[49] GOV/2013/40, para. 65.

L. Summary

74. While the Agency continues to verify the non-diversion of declared nuclear material at the nuclear facilities and LOFs declared by Iran under its Safeguards Agreement, the Agency is not in a position to provide credible assurance about the absence of undeclared nuclear material and activities in Iran, and therefore to conclude that all nuclear material in Iran is in peaceful activities.[50]

75. Iran has implemented, within the specified three-month period, the six initial practical measures contained in the Annex to the Framework for Cooperation. The Agency is analysing the information provided by Iran and has requested additional clarifications of some of this information.

76. During the technical meeting in Tehran on 8 and 9 February 2014, the Agency and Iran agreed on the next seven practical measures to be implemented by 15 May 2014. The agreement included one measure related to the information contained in the Annex to the Director General's report of November 2011.

77. Upon request from the E3+3 and Iran, and with the endorsement of the Board of Governors, the Agency has started to undertake monitoring and verification in relation to the measures set out in the JPA.

78. The measures implemented by Iran and the further commitments it has undertaken represent a positive step forward, but much remains to be done to resolve all outstanding issues.

79. The Director General will continue to report as appropriate.

[50]The Board of Governors has confirmed on numerous occasions, since as early as 1992, that para. 2 of INFCIRC/153 (Corr.), which corresponds to Article 2 of Iran's Safeguards Agreement, authorizes and requires the Agency to seek to verify both the non-diversion of nuclear material from declared activities (i.e. correctness) and the absence of undeclared nuclear activities in the State (i.e. completeness) (see, for example, GOV/OR.864, para. 49 and GOV/OR.865, paras 53–54).

List of Declared Nuclear Facilities and LOFs in Iran

Tehran:

1. Tehran Research Reactor (TRR)
2. Molybdenum, Iodine and Xenon Radioisotope Production (MIX) Facility
3. JabrIbn Hayan MultipurposeLaboratories (JHL)

Esfahan:

4. Miniature Neutron Source Reactor (MNSR)
5. Light Water Sub-Critical Reactor (LWSCR)
6. Heavy Water Zero Power Reactor (HWZPR)
7. Uranium Conversion Facility (UCF)
8. Fuel Manufacturing Plant (FMP)
9. Fuel Plate Fabrication Plant (FPFP)
10. Enriched UO_2 Powder Plant (EUPP)

Natanz:

11. Fuel Enrichment Plant (FEP)
12. Pilot Fuel Enrichment Plant (PFEP)

Fordow:

13. Fordow Fuel Enrichment Plant (FFEP)

Arak:

14. Iran Nuclear Research Reactor (IR-40 Reactor)

Karaj:

15. Karaj Waste Storage

Bushehr:

16. Bushehr Nuclear Power Plant (BNPP)

Darkhovin:

17. 360 MW Nuclear Power Plant

LOFs:

Nine (all situated within hospitals)

Table 1: Summary of UF_6 Production and Flows

	Date	Quantity	Enrichment
Produced at UCF	8 February 2014	550 000 kg	Natural
Fed into FEP, PFEP and FFEP	9 February 2014	126 994 kg	Natural
Produced at FEP, PFEP and FFEP	9 February 2014	11 111 kg	Up to 5%
Fed into PFEP	20 January 2014	1630.8 kg	Up to 5%
Produced at PFEP	20 January 2014	201.9 kg	Up to 20%
Fed into FFEP	20 January 2014	1806.0 kg	Up to 5%
Produced at FFEP	20 January 2014	245.9 kg	Up to 20%

Table 2: Inventory of UF_6Enriched up to 20% U-235

Produced at FFEP and PFEP	447.8 kg
Fed into conversion process	262.7 kg
Downblended	24.5 kg*
Stored as UF_6	160.6 kg

* The figure includes 1.6 kg that was previously downblended (GOV/2012/55, para. 10).

Table 3: Conversion at UCF

Conversion process	Quantity produced	Transferred to FMP
UF_6 (~3.4% U-235) into UO_2	24 kg U	24 kg U
Natural UOC into UO_2	13 792 kg U*	13 229 kg U

* Uranium content in material qualified for fuel fabrication.

Table 4: Fuel Manufacturing at FMP

Item	Number produced	Enrichment	Item mass (g U)	Number irradiated
Test fuel rod for IR-40 Reactor	3	Natural uranium	500	1
Test fuel rod	2	3.4%	500	-
Fuel rod assembly	2	3.4%	6 000	1
Mini IR-40 prototype fuel assembly	1	Natural uranium	10 000	1
IR-40 prototype fuel assembly	36	Natural uranium	35 500	Not applicable
IR-40 fuel assembly	11	Natural uranium	56 500	-

Table 5: Conversion of UF_6Enriched up to 20% U-235 into U_3O_8 at FPFP

Feed quantity	Quantity produced
262.7 kg of UF_6 (177.3 kg U)	120.6 kg U of U_3O_8

Table 6: TRR Fuel Fabrication at FPFP

Item	Number produced	Enrichment	Item mass (g U)	Present at TRR	Irradiated
TRRtest plate (Natural Uranium)	4	Natural uranium	5	2	1
TRRtest plate	5	19%	75	5	2
TRRcontrol fuel element	7	19%	1 000	5	4
TRRstandard fuel element	18	19%	1 400	14	5
Test assembly (with 8 plates)	1	19%	550	1	-

Update on Iran's implementation of "voluntary measures" undertaken in relation to the Joint Plan of Action agreed between the E3+3 and Iran on 24 November 2013

The Agency confirms that, as of 20 February 2014, Iran:

1. is not enriching uranium above 5% U-235 at any of its declared facilities;
2. is not operating cascades in an interconnected configuration at any of its declared facilities;
3. is continuing to dilute UF_6 enriched up to 20% U-235 at PFEP;[51]
4. is continuing the conversion of UF_6 enriched up to 20% U-235 into U_3O_8 at FPFP;[52]
5. has no process line to reconvert uranium oxides enriched up to 20% U-235 back into UF_6 enriched up to 20% U-235 at FPFP;
6. has not conducted "any further advances" to its activities at FEP, FFEP or the Arak reactor (IR-40 Reactor), including the manufacture and testing of fuel for the IR-40 Reactor;
7. has provided an updated DIQ for the IR-40 Reactor and has agreed to take steps to agree on the conclusion of a Safeguards Approach for the reactor;
8. is continuing to construct the EUPP for the conversion of UF_6 enriched up to 5% U-235 into oxide and, therefore, has yet to begin converting to oxide UF_6 "newly enriched" up to 5% U-235;
9. is continuing its "safeguarded R&D practices" at PFEP, including its "current enrichment R&D practices", and continues not to use these "practices" for the accumulation of enriched uranium;
10. is not carrying out reprocessing related activities at the TRR and the MIX Facility or at any of the other facilities to which the Agency has access;
11. has provided information and managed access to the uranium mine and mill at Gchine;
12. has permitted daily access to the nuclear facilities at Natanz and Fordow; and
13. has provided managed access to centrifuge assembly workshops, centrifuge rotor production workshops and storage facilities, and provided information thereon.

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[51] The amount of nuclear material that remained in the form of UF_6 enriched up to 20% U-235 on 20 January 2014 was 209.1 kg, half of which Iran has undertaken to dilute to UF_6 enriched to no more than 5% U-235 and the remainder of which it has undertaken to convert into oxide.

[52] See preceding footnote.